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ABSTRACT OF THE DISCLOSURE

An acoustic wave switch includes a substrate with an acoustic wave cavity formed therein such that the mass per unit area of the acoustic cavity is greater than the mass per unit area of the substrate adjacent the cavity. A transducer is mounted on the acoustic cavity for generating an acoustic wave that is substantially trapped in the cavity. A touch on the touch surface of the acoustic wave cavity absorbs acoustic wave energy and produces a detectable change in the impedance of the transducer. The acoustic wave switch has a high Q so as to enable a touch to be detected by extremely simple, low-cost circuitry. The acoustic wave switch of the present invention is rugged, explosion proof, operates in the presence of liquids and other contaminants, has a low power consumption and can be incorporated and integrally formed in a wall of a housing for a device.